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EXAMINER	
SANTOS, JOSEPH M	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,423	DE BLIEK, HUBRECHT LAMBERTUS TJALLING	
	Examiner	Art Unit	
	JOSEPH SANTOS	4155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/23/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Content of Specification

(a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

(b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

(c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

(d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).

(e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

(f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:

(1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

(2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and

problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

(g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

(i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

(k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the

World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

(l) Sequence Listing, See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. Claims 1-8, 10 and 11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-8 are rejected under 35 USC 101 as being directed to non-statutory subject matter because these are method or process claims that do not transform underlying subject matter (such as an article or materials) to a different state or thing, nor are they tied to another statutory class (such as a particular machine). *See* Diamond v. Diehr, 450 U.S. 175, 184 (1981) (quoting *Benson*, 409 U.S. at 70); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978) (citing *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)). *See also In re Comiskey*, 499 F.3d 1365, 1376 (Fed. Cir. 2007) (request for rehearing *en banc* pending). Claims fail to result in an article being physical transformation and fail to significantly tie a novel apparatus to the process.

Claims 10, 11 are rejected under 35 USC 101 as being directed to non-statutory subject matter because these are method or process claims that do not transform underlying subject matter (such as an article or materials) to a different state or thing, nor are they tied to another statutory class (such as a particular machine). *See* Diamond v. Diehr, 450 U.S. 175, 184 (1981) (quoting *Benson*, 409 U.S. at 70); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978) (citing *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)). *See also In re Comiskey*, 499 F.3d 1365,

1376 (Fed. Cir. 2007) (request for rehearing *en banc* pending). This means the machine or transformation must impose meaningful limits on the method claim's scope to pass the test.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims **1, 3, 4, and 7-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnan (U.S. 2001/0055016).

Regarding Claim 1, Krishnan teaches a method of displaying a two dimensional image of a segment of a tubular structure (Page 2 [0024], "tubular passage") from a three-dimensional volume image data set of the tubular structure, (Page 1 [0015] "2D representations of the 3D images"), the three-dimensional volume image data set comprising a plurality of voxels (Page 1 [008]), each respective voxel comprising a respective intensity value (Page 3 [0025])

the method comprising:

defining a path through the segment of the tubular structure (Page 3 [0036], "automatically generates a path");

calculating a new intensity value for at least one voxel on the path using the intensity value of this at least one voxel (Page 3 [0029], [0030] see calculation procedure by Krishnan);

calculating a new two-dimensional image (Page 2 [0022], "to generate a volume rendering") including the new intensity value (Page 3 [0029], [0030] see calculation procedure by Krishnan); and

sequentially displaying the original- and new two-dimensional image of the segment of the tubular structure (Page 2 [0020], "user inputs to control the selection and orientation of views as the user views the windows 48-52 to navigate through the 3D images shown in the windows 48-52". Although the author discloses the displaying of a 3D image, the author also discloses the system could display a 2D image instead of a 3D image "display 3D images on a screen or other output devices, for example, as 2D representations of the 3D images" Page 1 [0015]).

However, Krishnan fail to disclose a method of displaying a two dimensional image from a three-dimensional volume image data. In addition, Krishnan fails to disclose displaying the two-dimensional image and the three-dimensional image at the same time. Finally, Krishnan fails to explicitly disclose to mention that the intensity calculation occurs because of the change from a three-dimension volume data set to a two-dimension representation.

Nonetheless, it is well define in the art, as disclosed in the Background of the invention of Naqvi et al. (6,573,893), that volume rendering is the process to form a two-dimensional representation of a three-dimensional volume data set. In addition, is further disclosed in the Background of the invention of Naqvi et al., that a volume rendering system calculates the intensity of each three-dimensional volume data point and use this intensity value to create the two-dimensional representation. "To render a 2D representation of a 3D volume data set, the volume rendering system passes imaginary rays emanating from a pixel on an image plane through the volume data set. As each ray travels through the data, the volume rendering system calculates the intensity of each data point, or datum, traversed by the imaginary ray. The volume rendering system uses a compositing function to generate a single accumulated value from the resulting texel values. These accumulated values are then used to project the volume data set

onto a two-dimensional space to form a two-dimensional representation of the three-dimensional volume data set. (Naqvi et al. Column 1, lines 53-63)"

It would have been obvious at the time the invention was made to one ordinary skill in the art to display a two-dimensional image from a three dimensional volume image data set, this step is known to be incorporated in the process of volume rendering. In addition, it would haven been obvious at the time the invention was made to one ordinary skill in the art, to display both the two-dimensional representation and the three-dimension image at the same time using the system disclose by Krishnan. Finally, it would have been obvious at the time the invention was made to one ordinary skill in the art that the concept and definition of volume rendering encloses that the intensity value is calculated from a three-dimensional set of data points and from these intensity values a two-dimensional representation on the three-dimensional set of data point is created.

The motivation for to use of the system and methods disclosed by Krishnan be incorporated in such matter using the known art and teachings would be to provide a volume rendering system and method which provide such functions as measurement and automatic navigation (Krishnan Column 1 [0007]).

5. Regarding **Claim 3**, Krishnan teaches a method according to claim 1, wherein the new intensity value is displayed in a distinctive color (Page 4 [0046]).

6. Regarding **Claim 4**, Krishnan teaches a method according to claim 1, wherein the distinctive color is displayed if the new intensity value relates to a threshold value (Page 4 [0046], "a specific color associated with a specific or a defined range of intensity values". The author discloses the relationship between intensity and a limit or threshold to assign a color to

those intensities. Later, in the same paragraph, the author discloses these intensities could be displayed "intensity values can be displayed with different colors" Page 4, [0046]).

7. Regarding **Claim 7**, Krishnan teaches a method according to claim 1, wherein the two-dimensional images are a Maximum or Minimum Intensity Projection of the segment of the tubular structure (Page 4 [0047]).

8. Regarding **Claim 8**, Krishnan teaches a method according to claim 1, wherein the tubular structure is one of a vessel or a colon or a trachea (Page 3 [0036], "if the two points 92, 96 are inside a body vessels or passageway such as the esophagus, aorta or intestines").

9. Regarding **Claim 9**, Krishnan teaches an imaging diagnostic apparatus, notably a CT apparatus or an MR apparatus, for carrying out the method of claim 1, which apparatus includes an imaging unit (Page 2 [0018], "medical system 30 such as computer-aided tomography (CAT) scanners" and Page 2 [0019], "which may be generated by computer tomography or magnetic resonance scanning of a patient"), for the acquisition of coarse data of an object to be examined and also includes a program-controlled reconstruction unit which is designed to reconstruct volume image data from the coarse data, the volume image data consisting of a plurality of voxels (Page 1 [0008], " A three-dimensional (3D) imaging system and method include a processor for generating a volume-rendered 3D image on a display using a plurality of voxels from a 3D image dataset"), each respective voxel comprising a respective intensity value (Page 3 [0025], "each voxel i, i=1 to N, is associated with an intensity value I_i '), and defining a path through volume image data (Page 3 [0036], "automatically generates a path"); and is further designed to calculate a two-dimensional image Page 2 [0022], ("to generate a volume rendering") including the respective intensity values of the plurality of voxels (Page 3 [0029],

[0030] see calculation procedure by Krishnan); calculate a new intensity value for at least one voxel on the path (Page 3 [0036], "automatically generates a path") using the intensity value of this at least one voxel (Page 3, [0029] see calculation by Krishnan); calculate a new two-dimensional image (Page 2 [0022], "to generate a volume rendering") including the new intensity value (Page 3 [0029], [0030] see calculation procedure by Krishnan); and sequentially display the original- and new two-dimensional image (Page 2 [0020], "user inputs to control the selection and orientation of views as the user views the windows 48-52 to navigate through the 3D images shown in the windows 48-52". Although the author discloses the displaying of a 3D image, the author also discloses the system could display a 2D image instead of a 3D image "display 3D images on a screen or other output devices, for example, as 2D representations of the 3D images" Page 1 [0015]).

10. Regarding **Claim 10**, Krishnan teaches a computer program product designed to perform the method of claim 1 (Page 2 [0017] to [0022]).

11. Regarding **Claim 11**, Krishnan teaches a computer readable medium having stored thereon instructions for causing one or more processing units to perform the method of claim 1 (Page 2 [0016]).

12. Regarding **Claim 12**, Krishnan teaches a system comprising a suitably programmed computer of a workstation comprising storage means arranged to comprise instructions for causing one or more processing units to perform the method of claim 1 (Page 2 [0016]), and having display means for displaying images processed according to said method (Page 2 [0019] and [0020]).

13. Krishnan et al. disclosed all the teachings of **Claims 1, 3, 4, and 7-12**.

However, Krishnan fail to disclose a method of displaying a two dimensional image from a three-dimensional volume image data. In addition, Krishnan fails to disclose displaying the two-dimensional image and the three-dimensional image at the same time. Finally, Krishnan fails to explicitly disclose to mention that the intensity calculation occurs because of the change from a three-dimension volume data set to a two-dimension representation.

Nonetheless, it is well define in the art, as disclosed in the Background of the invention of Naqvi et al. (6,573,893), that volume rendering is the process to form a two-dimensional representation of a three-dimensional volume data set. In addition, is further disclosed in the Background of the invention of Naqvi et al., that a volume rendering system calculates the intensity of each three-dimensional volume data point and use this intensity value to create the two-dimensional representation. "To render a 2D representation of a 3D volume data set, the volume rendering system passes imaginary rays emanating from a pixel on an image plane through the volume data set. As each ray travels through the data, the volume rendering system calculates the intensity of each data point, or datum, traversed by the imaginary ray. The volume rendering system uses a compositing function to generate a single accumulated value from the resulting texel values. These accumulated values are then used to project the volume data set onto a two-dimensional space to form a two-dimensional representation of the three-dimensional volume data set. (Naqvi et al. Column 1, lines 53-63)"

It would have been obvious at the time the invention was made to one ordinary skill in the art to display a two-dimensional image from a three dimensional volume image data set, this step is known to be incorporated in the process of volume rendering. In addition, it would haven been obvious at the time the invention was made to one ordinary skill in the art, to display both

the two-dimensional representation and the three-dimension image at the same time using the system disclose by Krishnan. Finally, it would have been obvious at the time the invention was made to one ordinary skill in the art that the concept and definition of volume rendering encloses that the intensity value is calculated from a three-dimensional set of data points and from these intensity values a two-dimensional representation on the three-dimensional set of data point is created.

The motivation for to use of the system and methods disclosed by Krishnan be incorporated in such matter using the known art and teachings would be to provide a volume rendering system and method which provide such functions as measurement and automatic navigation (Krishnan Column 1 [0007]).

14. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnan (U.S. 2001/0055016) in view of Naqvi et al. (U.S. 6,573,893).

Regarding Claim 2, Krishnan disclosed all the elements in Claim 1.

In addition, Krishnan further discloses a method comprising calculating an additional new intensity value (Page 3 [0029], [0030] see calculation procedure by Krishnan) for the at least one voxel on the path (Page 3 [0036], “automatically generates a path");

calculating an additional new two-dimensional image (Page 2 [0022], “to generate a volume rendering”) including the additional new intensity value (Page 3 [0029], [0030] see calculation procedure by Krishnan) and; the method further comprises sequentially displaying the additional new two-dimensional image in addition to displaying the original- and new two-dimensional image of the segment of the tubular structure (Page 2 [0020], “user inputs to control the selection and orientation of views as the user views the windows 48-52 to navigate through the 3D images

shown in the windows 48-52". Although the author discloses the displaying of a 3D image, the author also discloses the system could display a 2D image instead of a 3D image "display 3D images on a screen or other output devices, for example, as 2D representations of the 3D images" Page 1 [0015]).

However, Krishnan fails to disclose a method comprising calculating the intensity value using at least one neighborhood voxel. In addition, Krishnan fail to disclose a plurality of iterations wherein in each iteration the method comprises calculating an additional new intensity value for the at least one voxel on the path using the intensity value of at least one neighboring voxel.

Naqvi et al. further disclose a method comprising calculating the intensity value using at least one neighborhood voxel (Column 13, line 61-62, "is well known, to compute the gradient, neighborhoods of voxels are considered". The author discloses that a gradient is directly related with the intensity "the gradient is a measure of the direction and rate of change of the intensity of the voxel" Column 9, line 11-12).

In addition Naqvi et al further disclose a plurality of iterations (Column 11, line 59-64 "voxel transfer circuit 196 can cause re-rendering of a volume data set with a different opacity value at processing rate equivalent to other graphics rendering operations, providing dynamic interactive volume rendering environment". The author discloses that opacity values are associated with the intensity values "a data array associating the opacity and color values with the intensity and gradient component values").

It would have been obvious at the time the invention was made to one ordinary skill in the art to combine the teachings of Krishnan which, calculate an additional intensity value for at

least one voxel, an additional new two dimensional image and display the said image in addition of the original image, with the teachings of Naqvi et al. which gives the option of calculate the intensity value using the intensity value of at least one neighborhood voxel and give the option to perform a plurality of iterations of said system.

The motivation for the use of the methods of calculate an intensity value of at least one voxel, calculate a 2D image and display said image in addition of the original image disclosed by Krishnan with the ability of using at least a neighborhood voxel to calculate the intensity value and the ability of perform multiple iteration of the said system would be to provide with a more efficient approach to volume rendering (Naqvi et al. Column 2, lines 12-14).

15. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnan (U.S. 2001/0055016) in view of Wang et al. (U.S. 5,769,789).

Regarding Claim 5, Krishnan disclosed all the elements in Claim 1.

In addition, Krishnan further disclose the path stated in claim 5 ((Page 3 [0036], "automatically generates a path").

However, Krishnan fails to disclose a method according to claim 1, wherein the new intensity value is one of a minimum intensity value, a maximum intensity value or an average intensity value of the at least one voxel.

Wang et al. further discloses wherein the new intensity value is one of a minimum intensity value, a maximum intensity value or an average intensity value of the at least one voxel (Column 13, line 9-11, "The average intensity of the voxels in the foreground component is calculated in step 160 using the voxel intensities in the original image").

It would have been obvious at the time the invention was made to one ordinary skill in the art to combine the teachings of Krishnan which, calculate an additional intensity value for at least one voxel, an additional new two dimensional image and display the said image in addition of the original image, with the teachings of Wang et al. which gives the ability to calculate the new intensity value using the average value of at least one voxel.

The motivation for the use of the methods of calculate an intensity value of at least one voxel, calculate a 2D image and display said image in addition of the original image disclosed by Krishnan with the ability of calculating the intensity value using the average intensity value of at least one voxel would be to provide a different intensity value for the marker higher than its surroundings (Wang et al. Column 2 lines 39-40)

16. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnan (U.S. 2001/0055016) in view of Bastos et al., "Diagnosis of subtle focal dysplastic lesions: curvilinear reformatting from three-dimensional magnetic resonance imaging". American Neurological Association 1999; Vol. 46: Pages 88-94.

Regarding Claim 6, Krishnan disclosed all the elements in Claim 1.

In addition, Krishnan further disclose the path stated in claim 6 ((Page 3 [0036], “automatically generates a path").

However, Krishnan fails to disclose a method according to claim 1, wherein the two-dimensional images are curvi-linear reformatted images.

Bastos et al. disclose wherein the two-dimensional images are curvi-linear reformatted images (Fig. 2, Page 90, Vol. 46, No 1, July 1999; “Schematic representation of the method of image processing in curvilinear reformatting. A surface is obtained by manual delineation

of the contour of the hemispheric convexities along the coronal plane. This surface will serve as a matrix for the generation of progressively deeper slices. The resultant surfaces may be displayed as a two-dimensional or a three-dimensional image").

It would have been obvious at the time the invention was made to one ordinary skill in the art to combine the teachings of Krishnan which, calculate an additional intensity value for at least one voxel, an additional new two dimensional image and display the said image in addition of the original image, with the teaching of Bastos et al. wherein this two-dimensional images could be curvi-linear reformatted images.

The motivation for the use of the methods of calculate an intensity value of at least one voxel, calculate a 2D image and display said image in addition of the original image disclosed by Krishnan with the method of Bastos et al. for the image processing of the image in curvilinear reformatting would be that curvilinear reformatting provides an improved and more realistic anatomical display (Bastos et al., Page 94, Vol. 46, No 1, July 1999).

Conclusion

EXAMINER NOTE: The prior art made in record Naqvi et al. (U.S. 6,573,893) disclose in the Background of the invention the definition of volume rendering (Column 1 line 53- 63). Clearly stating the definition of volume rendering.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH SANTOS whose telephone number is (571)-270-7782. The examiner can normally be reached on Monday thru Thursday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Thu can be reached on (571)-272-6967. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS

/Matthew F DeSanto/
Primary Examiner, Art Unit 3763